

ABSTRACT.

A method and system for producing decoding the transmission of high-resolution images transmitted as a low resolution spatially scalable FGS encoded base layer and at least one enhancement layer is presented. The low resolution received base layer is representative of a downscaled image of the original image. In this manner, a minimum resolution base layer is transmitted and higher resolutions may be obtained and utilized depending on the available bandwidth and the receiving system resolution capability. In one aspect of the invention, the base layer is decoded and a quality enhancement is next applied to the base layer. The combined base layer and quality layer video frames are then upsampled and the upsampled image is combined with a decoded spatial enhancement layer information. The spatial enhancement layer information fills in resolution lacking in the upsampled base layer/quality layer image. Thus, a high resolution image is formed. In another aspect of the invention, a temporal layer, containing information regarding image motion, is further applied to the upsampled base layer image to produce a spatially enhanced/temporally enhanced high resolution image.